SUMMARY OF RECOMMENDATIONS
CU-Boulder Engineering Advisory Council Meeting on 4/26/13

Brief summaries of the key discussion items, reports, and recommendations of the 4/26/13 meeting of the University of Colorado Boulder Engineering Advisory Council (EAC) are provided below. This summary report and the meeting slides may be found on the EAC website: http://www.colorado.edu/engineering/about/engineering-advisory-council.

**CU Focus on Excellence** – CU Provost Russ Moore provided his perspective on the current state of CU’s pursuit of excellence as a comprehensive research university and the future areas of focus. Current research metrics for the top research institutes rank the University of Colorado system as 23rd in U.S. university research output (measured by number of published papers) and CU-Boulder as 8th in citations of these papers. Both of these metrics confirm the significant research impact of the CU system. The Provost discussed three strategic priorities over the next 18-36 months:

1. Sustain and enhance the stature of CU-Boulder as a comprehensive national research university.
2. Identify and implement contemporary best practices to promote student success.
3. Develop academic and educationally innovative programs of distinction that will further differentiate CU-Boulder as a national leader in teaching, curricular, and scholarly innovation.

The tactics for each of these strategic priorities were shared as part of the Provost’s presentation posted on the EAC website.

**College Update** - Dean Rob Davis provided an update on our College’s rankings and the factors that comprise those rankings. The National Research Council (NRC) rankings of graduate programs show dramatic improvements in four of the six CEAS departments from 1995-2010. However, the U.S. News & World Report rankings for undergraduate and graduate programs (2007-2012) show only modest changes, despite the improvement in the quantitative metrics.

The EAC brainstormed on actions to improve College rankings. The suggestions fell into six categories:

1. Improve advertising and college branding efforts
2. Reach out to deans and other engineering schools
3. Try to change/impact the ranking criteria used
4. Increase the number of student applications but tighten acceptance standards
5. Contact other engineering groups/societies to change perceptions of CEAS
6. Reach out to industry groups to change perceptions of CEAS

A full summary of the recommendations is posted on the EAC website at http://www.colorado.edu/engineering/sites/default/files/EAC_Recommended_Actions_to_Improve_Our_College_Rankings_042613.pdf
An examination of the College’s progress against the *Engineering 2020* strategy revealed great progress against the key metrics. The enrollment growth targets have already been exceeded. Student quality and diversity measure are improved, but performance and retention remain areas of concern for the College. In a comparison of the size of our college against our aspirational peers, we are smaller but more productive on a per faculty basis.

**Education Update** – Diane Sieber introduced the new Global Engineering Residential Academic Program (GERAP) and Pre-engineering Program (PREN) offered for Fall 2013 enrollment. Three new degree programs were also introduced: General Engineering Plus Teaching Licensure, Materials Science & Engineering graduate degree, and a Computer Science BA degree. The EAC was updated on progress being made in driving math success through the use of the ALEKS Placement Process and self-paced learning modules. Longer term, improved math placement and education are expected to have a favorable impact on college retention.

**EAC Strategic Growth Task Force** – The EAC Strategic Growth Task Force was tasked with identifying and providing recommendations to the Dean on key issues related to managing the growth in students, programs and needed infrastructure. The group summarized their recommendations, after which the EAC split into groups to prioritize the recommendations. The top-tier priorities upon which the EAC aligned included:

- Develop an aligned view of college differentiators and implement a branding strategy
- Ensure engineering graduate have business acumen
- Support Fleming Design Center proposal plus a “Wow” factor
- Develop a comprehensive US and international recruiting strategy; staff for implementation
- Pilot use of on-line course materials

The Dean asked for volunteers to continue to help with the first three of these priorities. The Dean’s staff will address the remaining two priorities. A summary of the break-out session results is posted on the EAC website at [http://www.colorado.edu/engineering/sites/default/files/EAC_Strategy_Task_Force_Breakout_Priorities_042613.pdf](http://www.colorado.edu/engineering/sites/default/files/EAC_Strategy_Task_Force_Breakout_Priorities_042613.pdf).

**Aerospace Engineering Sciences** – Penny Axelrad, Chair of the Aerospace Engineering Sciences (AES), gave an overview of the AES Department, including summaries of the undergraduate and graduate programs, faculty and alumni. She also described CU-Boulder AeroSpace Ventures and discussed how this collaboration among aerospace-related departments, institutes, centers and industry partners is differentiating to the College across research, education and industry. Eric Frew, Associate Professor of AES and Director of RECUV, provided an interesting presentation, “Unmanned Aircraft Systems for Communication and Sensing Applications”. The vision of his research program is establishing the fundamental connections between sensing, communication, and control in robotic sensor networks, with an emphasis on small unmanned aircraft systems. Eric shared the relevance of his research with results from the deployment of unmanned aircraft to sample data from severe storm cells.
**ATLAS Institute** – John Bennett, Director of Alliance for Technology, Learning and Society (ATLAS), and three students provided perspective on the breadth of the ATLAS Institute and examples of how ATLAS brings diversity and important content to the College. Undergraduate Karlissa Ablay described how the ATLAS program, Technology, Arts and Media (TAM), provides a creative outlet for her computer science skills-set. Mustafa Naseem, a Fulbright Scholar and graduate student in the ATLAS Information and Communication Technology for Development (ICTD) Master’s program, advocated for the interdisciplinary nature of the curriculum and the differentiation it provides for our college. Heather Underwood, a PhD candidate, provided an overview of her dissertation work on the PartoPen. The PartoPen provides an interactive digital pen technology that improves maternal health and labor monitoring - a technology that is particularly relevant for developing communities without extensive trained medical staff.

**Subcommittee Meetings** – Reports from the Research, Education, Resource Development and BOLD Sub-committees are posted on the EAC website at [http://www.colorado.edu/engineering/about/engineering-advisory-council/#Spring_2013](http://www.colorado.edu/engineering/about/engineering-advisory-council/#Spring_2013)

**Business Meeting** – Pam Drew and Mike Wirth were elected as the new EAC Chair and Vice Chair. Kristy Schloss was acknowledged for her leadership during her term as EAC Chair. The amended EAC bylaws were unanimously approved.

The **key EAC recommendations** that emerged from the meeting for college consideration and follow-up included:

- Refresh of the College’s strategic plan.
- Develop an aligned view of college differentiators and implement a branding strategy that leverages these differentiators to improve reputation and recruiting.
- Gain approval and funding for the development of the Fleming Design Center proposal with a “wow” factor.
- Provide Dean Davis with industry perspective on new programs/degrees to add to College.

**Wrap-up & Plans for Next Meeting:** Upcoming meetings of the EAC are scheduled for September 27th, 2013 and April 25th, 2014. Items that will be included in the next meeting include:

- Retention update – Diane Sieber
- Research update – Kurt Maute
- Diversity update – Jackie Sullivan
- CEAE Department update – Keith Molenaar
- Task Force Reports
  - Strategy Refresh
  - Branding
  - Business Acumen and Leeds/CEAS collaborations
Members were asked to complete a survey on EAC meeting effectiveness. The membership rated the EAC meetings “moderately high” across all meeting components. There was significant alignment that the EAC members have more to contribute than is currently being tapped; significant value for and interest in task force participation; and high interest in departmental presentations and student engagement. The main recommendation for improvement was timelier follow up on EAC recommendations. The full summary of survey results is posted on the EAC website at http://www.colorado.edu/engineering/sites/default/files/EAC_Meeting_Effectiveness_Survey_042613.pdf.

**EAC Members Attending:** Dana Andersen, Gary Anderson, Brad Brooks, Frank Doerner, Scott Donnelly, Pam Drew, Steve Dunn, Aamir Farid, Lisa Glatch, Paul Hamilton, Dan Hernandez, Nan Joesten, Jenifer Kennedy, Carin Knickel, Mike McAtee, Merc Mercure, John Mollenkopf, Jim Oschmann, Lanny Pinchuk, Frank Prager, Patty Quinones, Al Sanders, Lucy Sanders, Kristy Schloss, Doug Smith, Kathy Tobey, Jim Wade, and Mike Wirth.

Prospective new members that attended the meeting included Vanessa Aponte, Dick Green, Aine Hanley, Margaret McLean, Jeff Richardson, Nathan Seidle, and Chantal Veevaete.